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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
Port Orchard, Washington 98366

December 27, 1994

MEMORANDUM

SUBJECT: Review of ESAT VOA Data for the Spokane Junkyard Site, Sample 94464300.

FROM: Joseph N. Blazevich, Chief
Environmental Chemistry Section JNB

TO: Kevin Rochlin, Project Officer
The Spokane Junkyard Site

CC: Charles Stringer, ORC

FULL DATA REVIEW

I have reviewed the attached data package and the corresponding raw data. Based on this review, I find that the Self Evaluation Report prepared by the ESAT contractor was conducted in accordance with the Functional Guidelines, and that the data qualifiers recommended in the ESAT contractor's evaluation are appropriate.

MW3 VOA Soil

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ENVIRONMENTAL SERVICE ASSISTANCE TEAMS - ZONE 2

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ManTech Environmental

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MEMORANDUM

DATE: December 27, 1994

TO: Jerry Muth, Deputy Project Officer
Joe Blazevich, Task Monitor
Kevin Rochlin, Project Officer

FROM: Marc W. Streightiff, ESAT Data Reviewer

THROUGH: Barry Pepich, ESAT Team Manager

SUBJECT: Quality Assurance Review of the Volatile Analysis of One Soil Sample from the Spokane Junkyard Site.

cc: Charles Stringer, USEPA

TID#: 10-9410-509
DOC#: ESAT-10A-7686
WUD#: 1501

The quality assurance review of one soil sample collected from the Spokane Junkyard site has been completed. This sample was analyzed for volatile target compounds using a modified USEPA CLP RAS method by the USEPA Region 10 Laboratory in Manchester, WA. This data review was conducted for the following sample listed by EPA sample code:

94464300

The chain of custody initially listed this sample as 94414396. The sample code was altered to 94464300 after receipt. A copy of the memorandum requesting this change has been included in the data package.

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the "National Functional Guidelines for Organic Data Review - 2/94" and the USEPA Region 10 Manchester Environmental Guidelines. The recommendations presented herein are based on the information provided for the review.

1. Timeliness

This sample was analyzed within the Functional Guidelines recommended holding time for soil samples (14 days from sample collection). A

matrix spike and matrix spike duplicate (MS/MSD) was also analyzed using this sample, however, due to an insufficient purge of the MS, they were reanalyzed at a later date outside the recommended holding time. It was not recommended that the data for the MS/MSD be qualified on the basis of holding times, since the target analytes were added at the time of analysis.

2. GC/MS Tuning - Acceptable

Tuning checks were performed at the beginning of each analysis day. The data presented on each GC/MS Tuning and Mass Calibration form was compared with each mass listing, and raw data.

Calculations and transcriptions were correct. Tuning and performance criteria were met.

3. Initial Calibration

Two instruments were utilized for the analysis of this sample and its associated MS/MSD. An initial calibration was performed on a Hewlett Packard 5971 on 10/24/94. The calculations were verified to be correct with the raw data. All average relative response factors (RRFs) were $\geq$0.05, and the percent relative standard deviation (%RSD) criterion of $\leq$30% were met by the target compounds and surrogates.

The calibration limits were increased for the following target compounds due to not having RRFs for lower calibration standards in the calculation of the initial calibration mean RRFs:

Compound	Calibration Limit (ng)
acetone	50
carbon disulfide	25
methylene chloride	10
2-butanone	50
1,2,4-trichlorobenzene	25
hexachlorobutadiene	25
naphthalene	50
1,2,3-trichlorobenzene	25

The analyses of sample 94464300 and its associated blank, KBS4325A, were performed using this initial calibration.

An initial calibration for the Finnigan Incos 50 was performed on 11/28/94. The calculations were verified to be correct with the raw data. The average RRFs were $\geq$0.05 and the %RSDs were $\leq$30% for all target analytes and surrogates.

The calibration limits were increased for the following target compounds due to not having RRFs for lower calibration standards in the calculation of the initial calibration mean RRFs:

Compound	Calibration Limit (ng)
dichlorodifluoromethane	25
chloromethane	25
bromomethane	25
acetone	50
carbon disulfide	10
methylene chloride	10
2-butanone	25
4-methyl-2-pentanone	10
2-hexanone	50
1,2,4-trimethylbenzene	10
1,2-dibromo-3-chloropropane	25

The analyses of the MS/MSD pair and their associated blank, IBS4335A, were performed using this initial calibration.

The reported quantitation limits on the Form Is were adjusted accordingly.

4. Continuing Calibration

The continuing calibration standards which were analyzed on each instrument met the criteria for frequency of analysis and relative retention time (RRT) windows for all target compounds and surrogates. The minimum RRF criterion of $\geq$0.05 was met by all target compounds and surrogates. The RRF percent differences (%Ds) criterion of $\leq$25% as compared to the mean RRFs from the initial calibrations was met for all target compounds and surrogates except for the following:

KVS4325:
11/21/94

Compound	%D	Sensitivity	Recommended Qualifier Det	Non-det
dichlorodifluoromethane	37.4	decreased	**J**	**UJ**
4-methyl-2-pentanone	33.9	decreased	**J**	**UJ**
2-hexanone	51.9	decreased	**J**	**UJ**
1,2-dibromo-3-chloropropane	44.6	decreased	**J**	**UJ**
1,2,4-trichlorobenzene	30.9	decreased	**J**	**UJ**
naphthalene	73.6	decreased	**J**	**UJ**
1,2,3-trichlorobenzene	42.7	decreased	**J**	**UJ**

The analyses of the sample 94434300 and its associated blank, KBS4325A, were associated with the above continuing calibration.

IVS4335:
12/01/94

Compound	%D	Sensitivity	Recommended Qualifier Det	Non-det
carbon disulfide	37.0	decreased	J	UJ
4-methyl-2-pentanone	32.9	decreased	J	UJ
bromoform	29.4	decreased	J	UJ
1,2-dibromo-3-chloropropane	29.7	decreased	J	UJ

The analyses of the MS/MSD pair and their associated blank, IBS4335A, were associated with the above continuing calibration.

Sample results associated with the above compounds and continuing calibrations were recommended for qualification accordingly.

5. Blanks

The frequency of analysis of the method blanks were met. Two method blanks were associated with this sample and the MS/MSD. These blanks contained the following target compound:

Date Analyzed	Compound
11/21/94	acetone
	carbon disulfide
	methylene chloride
	2-butanone
	chloroform
	2-hexanone
12/01/94	acetone
	carbon disulfide
	methylene chloride
	1,2,4-trimethylbenzene
	naphthalene

It was recommended that these compounds be qualified as non-detected, "**U**", if the sample result area integration was below ten times the area found in the blanks for common laboratory contaminants, or below five times the area found in the blank for other analytes. The following compounds were reported as non-detects based on the above criteria:

Sample	Compound
94464300	acetone
	carbon disulfide
	methylene chloride
	2-butanone

Tentatively identified compounds (TICs) present in the method blank were recommended for deletion from the sample Form Is.

6. Surrogate Recovery - Acceptable

All surrogate recoveries fell within the recommended recovery limits. Surrogate recoveries ranged from 93% to 119%. No qualifiers were recommended based on the surrogate recoveries.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

An MS/MSD pair was prepared on sample 94464300. All target analytes were added to the MS and MSD at a concentration of 20 ng. It was recommended that acetone, carbon disulfide, methylene chloride, 2-butanone, and chloroform not be analyzed, since they were present in the native sample at concentrations greater than 20% of the spiking level. It was also recommended that the percent recoveries for chloromethane, dichlorodifluoromethane, bromomethane, and 2-hexanone be qualified as estimates, "**J**", since the spiking amount was less than the quantitation limits for these compounds. It was further recommended that the percent recoveries for 4-methyl-2-pentanone, 1,2-dibromo-3-chloropropane, and bromoform be qualified as estimates based on the continuing calibration performance.

All percent recoveries and relative percent differences (RPDs) fell within the acceptance criteria except for the following:

Compound	MS/MSD	RPD	Recommended Qualifier	
			Det	Non-det
4-methyl-2-pentanone	220/200	NA	**J**	none
chlorobenzene	NA/NA	24.6	none	none
bromoform	153/NA	NA	**J**	none
1,1,2,2-tetrachloroethane	169/NA	NA	**J**	none
1,2,3-trichloropropane	163/NA	NA	**J**	none
4-chlorotoluene	NA/45	NA	**J**	**UJ**
1,3-dichlorobenzene	NA/45	NA	**J**	**UJ**
1,4-dichlorobenzene	NA/49	NA	**J**	**UJ**
n-butylbenzene	NA/47	NA	**J**	**UJ**
1,2-dibromo-3-chloropropane	213/175	NA	**J**	~~**UJ**~~ JM
1,2,4-trichlorobenzene	49/NA	NA	**J**	**UJ**

Analytical results for sample 94464300 were qualified for the above compounds accordingly.

NA - not applicable - analytical result was within the criteria.

8. Internal Standards Performance - Acceptable

The data reported on the Internal Standard Area Summary form was verified with the raw data. Chromatograms, quantitation lists, and transcriptions were examined.

All analyses met the acceptance criterion for the internal standard (IS) retention time shift (±30 seconds from the associated continuing calibration standard) and area count (-50% to +100% of the area of the associated calibration standard).

9. Compound Identification - Acceptable

The chromatograms and quantitation lists were inspected. Sample and laboratory generated standard spectra were examined. Positive sample results reported on the Form Is were within RRT windows. All criteria were met for mass spectral ion and abundance matching or were judged acceptable.

10. Compound Quantitation and Quantitation Limits (QLs)

The raw data was examined to verify the calculation of sample results and the reported QLs. All QLs were adjusted to sample size, extract volume, and lowest level standards used in the initial calibration. Detected sample results less than the QLs were recommended by the laboratory to be qualified as estimates, **"J"**.

Sample results were calculated against an updated daily continuing calibration standard.

11. Tentatively Identified Compounds

All TIC results were qualified as estimates, **"J"**, or as tentatively identified estimates, **"JN"**.

12. System Performance - Acceptable

All of the standards, blanks and samples were analyzed in accordance with the method.

13. Overall Assessment

Overall, a total 12.2% of the target compound sample results were recommended to be qualified. This was due to the continuing calibration performance (7.2%), method blank results (1.25%), MS/MSD results (1.25%), and compound quantitation (2.5%).

DATA QUALIFIERS

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

EXP - The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6.

REJ - The data are unusable for all purposes.

N - There is evidence the analyte is present in this sample.

NJ - There is evidence that the analyte is present. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.

NAF - Not analyzed for.

NAR - No analytical result.

* - The analyte was present in the sample. (Visual aid to locate detected compounds on the report sheet.)

NOTE: Data users are encouraged to contact their Regional representative within ESD to clarify or obtain further information on the appropriate use of analytical data.

Manchester Environmental Laboratory
Final Report

Project Code: TEC-637A
Project Name: SPOKANE JUNKYARD
Project Officer: KEVIN ROCHLIN
Account Code: 955T10PTFA10A5U

Collected: 11/15/94
Matrix: Solid
Sample Number: 94464300
Type: Reg sample
Station Description: MW-3

GCMS

Volatiles

Analyte	Result	Units	Qlfr
1,1,1,2-Tetrachloroethane	2.3	ug/kg	U
1,1,1-Trichloroethane	2.3	ug/kg	U
1,1,2-Trichloroethane	2.3	ug/kg	U
1,1-Dichloroethane	2.3	ug/kg	U
1,1-Dichloroethene	2.3	ug/kg	U
1,1-Dichloropropene	2.3	ug/kg	U
1,2,3-Trichloropropane	2.3	ug/kg	U
1,2,4-Trichlorobenzene	11.7	ug/kg	UJ
1,2-Dibromo-3-chloropropane	2.3	ug/kg	UJ
1,2-Dibromoethane	2.3	ug/kg	U
1,2-Dichlorobenzene	2.3	ug/kg	U
1,2-Dichloroethane	2.3	ug/kg	U
1,2-Dichloropropane	2.3	ug/kg	U
1,3-Dichlorobenzene	2.3	ug/kg	UJ
1,3-Dichloropropane	2.3	ug/kg	U
1,4-Dichlorobenzene	2.3	ug/kg	UJ
2,2-Dichloropropane	2.3	ug/kg	U
2-Butanone	23.4	ug/kg	U
2-Chlorotoluene	2.3	ug/kg	U
2-Hexanone	2.3	ug/kg	UJ
2-Propanone	23.4	ug/kg	U
4-Chlorotoluene	2.3	ug/kg	UJ
4-Methyl-2-Pentanone	2.3	ug/kg	UJ
Benzene	2.3	ug/kg	U
Benzene, (1-methylethyl)	2.3	ug/kg	U
Benzene, (1-methylpropyl)	2.3	ug/kg	U
Benzene, 1,2,3-trichloro	11.7	ug/kg	UJ
Benzene, 1,2,4-trimethyl	2.3	ug/kg	U
Benzene, 1,2-dimethyl	2.3	ug/kg	U
Benzene, 1,3,5-trimethyl	2.3	ug/kg	U
Benzene, 1-methyl-4-(1-meth	2.3	ug/kg	U
Benzene, chloro	2.3	ug/kg	U
Benzene, ethyl	2.3	ug/kg	U
Benzene, propyl	2.3	ug/kg	U
Bromobenzene	2.3	ug/kg	U
Bromochloromethane	2.3	ug/kg	U
Bromodichloromethane	2.3	ug/kg	U
Bromoform	2.3	ug/kg	U
Bromomethane	2.3	ug/kg	U
Butylbenzene	2.3	ug/kg	UJ
Carbon disulfide	11.7	ug/kg	U
Carbon Tetrachloride	2.3	ug/kg	U
Chloroethane	2.3	ug/kg	U
Chloroform	**7.0**	**ug/kg**	
Chloromethane	2.3	ug/kg	U
cis-1,2-Dichloroethene	2.3	ug/kg	U

Analyte	Result	Units	Qlfr
Cis-1,3-Dichloropropene	2.5	ug/kg	U
Dibromochloromethane	2.3	ug/kg	U
Dibromomethane	2.3	ug/kg	U
Ethane, 1,1,2,2-tetrachl	2.3	ug/kg	U
Ethene, tetrachloro	2.3	ug/kg	U
Hexachlorobutadiene	11.7	ug/kg	U
Methane, Dichlorodif	2.3	ug/kg	UJ
Methylene Chloride	4.7	ug/kg	U
MP-Xylene	4.7	ug/kg	U
Naphthalene	23.4	ug/kg	UJ
Styrene	2.3	ug/kg	U
tert-Butylbenzene	2.3	ug/kg	U
Toluene	2.3	ug/kg	U
Total Xylenes	4.7	ug/kg	U
trans-1,2-Dichloroethene	2.3	ug/kg	U
Trans-1,3-Dichloropropene	2.2	ug/kg	U
Trichloroethene	2.3	ug/kg	U
Trichlorofluoromethane	2.3	ug/kg	U
Vinyl Chloride	2.3	ug/kg	U
1,2-Dichlorobenzene-d4	98	%Rec	
1,2-Dichloroethane-d4	111	%Rec	
Benzene, fluoro	101	%Rec	
p-Bromofluorobenzene	96	%Rec	
Toluene-d8	103	%Rec	

Analyte	Result	Units	Qlfr

Manchester Environmental Laboratory
Final Report

Project Code: TEC-637A
Project Name: SPOKANE JUNKYARD
Project Officer: KEVIN ROCHLIN
Account Code: 955T10PTFA10A5U

Collected:
Matrix: Solid
Sample Number: 94464300
Type: Matrix Spike
Station Description:

GCMS

Volatiles

Analyte	Result	Units	Qlfr
2-Butanone	NAR		
2-Propanone	NAR		
Carbon disulfide	NAR		
Chloroform	NAR		
Methylene Chloride	NAR		
1,1,1,2-Tetrachloroethane	101.37	%Rec	
1,1,1-Trichloroethane	103.97	%Rec	
1,1,2-Trichloroethane	110.87	%Rec	
1,1-Dichloroethane	97.72	%Rec	
1,1-Dichloroethene	105.89	%Rec	
1,1-Dichloropropene	92.05	%Rec	
1,2,3-Trichloropropane	163.40	%Rec	
1,2,4-Trichlorobenzene	48.74	%Rec	
1,2-Dibromo-3-chloropropane	212.88	%Rec	J
1,2-Dibromoethane	125.28	%Rec	
1,2-Dichlorobenzene	76.57	%Rec	
1,2-Dichlorobenzene-d4	107.56	%Rec	
1,2-Dichloroethane	114.43	%Rec	
1,2-DICHLOROETHANE-D4	118.24	%Rec	
1,2-Dichloropropane	96.24	%Rec	
1,3-Dichlorobenzene	59.36	%Rec	
1,3-Dichloropropane	113.25	%Rec	
1,4-Dichlorobenzene	59.80	%Rec	
2,2-Dichloropropane	109.12	%Rec	
2-Chlorotoluene	78.41	%Rec	
2-Hexanone	146.74	%Rec	J
4-Chlorotoluene	51.85	%Rec	
4-Methyl-2-Pentanone	219.84	%Rec	J
Benzene	86.59	%Rec	
Benzene, (1-methylethyl)	89.32	%Rec	
Benzene, (1-methylpropyl)	90.99	%Rec	
Benzene, 1,2,3-trichloro	66.49	%Rec	
Benzene, 1,2,4-trimethyl	77.72	%Rec	
Benzene, 1,2-dimethyl	84.85	%Rec	
Benzene, 1,3,5-trimethyl	77.00	%Rec	
Benzene, 1-methyl-4-(1-meth	76.72	%Rec	
Benzene, chloro	84.19	%Rec	
Benzene, ethyl	81.76	%Rec	
Benzene, fluoro	99.89	%Rec	
Benzene, propyl	79.84	%Rec	
Bromobenzene	79.98	%Rec	
Bromochloromethane	119.92	%Rec	
Bromodichloromethane	104.65	%Rec	
Bromoform	153.18	%Rec	J
Bromomethane	128.00	%Rec	J
Butylbenzene	64.22	%Rec	

Analyte	Result	Units	Qlfr
Carbon Tetrachloride	100.24	%Rec	
Chloroethane	82.49	%Rec	
Chloromethane	107.96	%Rec	
cis-1,2-Dichloroethene	92.84	%Rec	
Cis-1,3-Dichloropropene	94.35	%Rec	
Dibromochloromethane	112.00	%Rec	
Dibromomethane	132.81	%Rec	
Ethane, 1,1,2,2-tetrachl	168.95	%Rec	
Ethene, tetrachloro	79.24	%Rec	
Hexachlorobutadiene	83.79	%Rec	
Methane, Dichlorodif	83.28	%Rec	J
MP-Xylene	80.05	%Rec	
Naphthalene	112.40	%Rec	
p-Bromofluorobenzene	102.75	%Rec	
Styrene	73.63	%Rec	
tert-Butylbenzene	101.81	%Rec	
Toluene	79.72	%Rec	
Toluene-d8	95.06	%Rec	
Total Xylenes	81.70	%Rec	
trans-1,2-Dichloroethene	103.92	%Rec	
Trans-1,3-Dichloropropene	100.06	%Rec	
Trichloroethene	85.88	%Rec	
Trichlorofluoromethane	130.83	%Rec	
Vinyl Chloride	113.55	%Rec	

Analyte	Result	Units	Qlfr

Manchester Environmental Laboratory
Final Report

Project Code: TEC-637A
Project Name: SPOKANE JUNKYARD
Project Officer: KEVIN ROCHLIN
Account Code: 955T10PTFA10A5U

Collected:
Matrix: Solid
Sample Number: 94464300
Type: Matrix Spike Dupl
Station Description:

GCMS

Volatiles

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
2-Butanone	NAR			2,2-Dichloropropane	90.47	%Rec	
2-Propanone	NAR			2-Chlorotoluene	60.05	%Rec	
Carbon disulfide	NAR			2-Hexanone	107.26	%Rec	J
Chloroform	NAR			4-Chlorotoluene	45.13	%Rec	
Methylene Chloride	NAR			4-Methyl-2-Pentanone	199.50	%Rec	J
1,1,1,2-Tetrachloroethane	78.75	%Rec		Benzene	78.45	%Rec	
1,1,1-Trichloroethane	89.87	%Rec		Benzene, (1-methylethyl)	64.02	%Rec	
1,1,2-Trichloroethane	100.19	%Rec		Benzene, (1-methylpropyl)	67.12	%Rec	
1,1-Dichloroethane	87.67	%Rec		Benzene, 1,2,3-trichloro	54.84	%Rec	
1,1-Dichloroethene	87.83	%Rec		Benzene, 1,2,4-trimethyl	56.92	%Rec	
1,1-Dichloropropene	77.50	%Rec		Benzene, 1,2-dimethyl	60.84	%Rec	
1,2,3-Trichloropropane	147.18	%Rec		Benzene, 1,3,5-trimethyl	54.48	%Rec	
1,2,4-Trichlorobenzene	53.48	%Rec		Benzene, 1-methyl-4-(1-meth	52.02	%Rec	
1,2-Dibromo-3-chloropropane	175.30	%Rec	J	Benzene, chloro	65.78	%Rec	
1,2-Dibromoethane	104.16	%Rec		Benzene, ethyl	62.44	%Rec	
1,2-Dichlorobenzene	51.51	%Rec		Benzene, fluoro	99.13	%Rec	
1,2-Dichlorobenzene-d4	103.37	%Rec		Benzene, propyl	59.39	%Rec	
1,2-Dichloroethane	103.18	%Rec		Bromobenzene	63.57	%Rec	
1,2-DICHLOROETHANE-D4	112.09	%Rec		Bromochloromethane	102.31	%Rec	
1,2-Dichloropropane	83.10	%Rec		Bromodichloromethane	92.27	%Rec	
1,3-Dichlorobenzene	45.05	%Rec		Bromoform	113.63	%Rec	J
1,3-Dichloropropane	97.97	%Rec		Bromomethane	103.59	%Rec	J
1,4-Dichlorobenzene	49.03	%Rec		Butylbenzene	47.49	%Rec	

Analyte	Result	Units	Qlfr
Carbon Tetrachloride	86.55	%Rec	
Chloroethane	73.44	%Rec	
Chloromethane	88.47	%Rec	J
cis-1,2-Dichloroethene	85.05	%Rec	
Cis-1,3-Dichloropropene	78.64	%Rec	
Dibromochloromethane	97.85	%Rec	
Dibromomethane	116.77	%Rec	
Ethane, 1,1,2,2-tetrachl	141.31	%Rec	
Ethene, tetrachloro	60.69	%Rec	
Hexachlorobutadiene	62.54	%Rec	
Methane, Dichlorodif	70.32	%Rec	J
MP-Xylene	58.05	%Rec	
Naphthalene	117.97	%Rec	
p-Bromofluorobenzene	101.02	%Rec	
Styrene	55.84	%Rec	
tert-Butylbenzene	69.26	%Rec	
Toluene	67.89	%Rec	
Toluene-d8	93.36	%Rec	
Total Xylenes	59.00	%Rec	
trans-1,2-Dichloroethene	85.29	%Rec	
Trans-1,3-Dichloropropene	83.82	%Rec	
Trichloroethene	73.05	%Rec	
Trichlorofluoromethane	107.14	%Rec	
Vinyl Chloride	93.72	%Rec	

Analyte	Result	Units	Qlfr

Project Code: TEC-637A
Project Name: SPOKANE JUNKYARD
Project Officer: KEVIN ROCHLIN
Account Code: 955T10PTFA10A5U

Collected:
Matrix: Solid
Sample Number: IBS4335A
Type: Blank
Station Description:

GCMS

Volatiles

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
1,1,1,2-Tetrachloroethane	3.2	ug/kg	U	Benzene	3.2	ug/kg	U
1,1,1-Trichloroethane	3.2	ug/kg	U	Benzene, (1-methylethyl)	3.2	ug/kg	U
1,1,2-Trichloroethane	3.2	ug/kg	U	Benzene, (1-methylpropyl)	3.2	ug/kg	U
1,1-Dichloroethane	3.2	ug/kg	U	Benzene, 1,2,3-trichloro	3.2	ug/kg	U
1,1-Dichloroethene	3.2	ug/kg	U	**Benzene, 1,2,4-trimethyl**	**1.5**	**ug/kg**	**J**
1,1-Dichloropropene	3.2	ug/kg	U	Benzene, 1,2-dimethyl	3.2	ug/kg	U
1,2,3-Trichloropropane	3.2	ug/kg	U	Benzene, 1,3,5-trimethyl	3.2	ug/kg	U
1,2,4-Trichlorobenzene	3.2	ug/kg	U	Benzene, 1-methyl-4-(1-meth	3.2	ug/kg	U
1,2-Dibromo-3-chloropropane	16.0	ug/kg	UJ	Benzene, chloro	3.2	ug/kg	U
1,2-Dibromoethane	3.2	ug/kg	U	Benzene, ethyl	3.2	ug/kg	U
1,2-Dichlorobenzene	3.2	ug/kg	U	Benzene, propyl	3.2	ug/kg	U
1,2-Dichloroethane	3.2	ug/kg	U	Bromobenzene	3.2	ug/kg	U
1,2-Dichloropropane	3.2	ug/kg	U	Bromochloromethane	3.2	ug/kg	U
1,3-Dichlorobenzene	3.2	ug/kg	U	Bromodichloromethane	3.2	ug/kg	U
1,3-Dichloropropane	3.2	ug/kg	U	Bromoform	3.2	ug/kg	UJ
1,4-Dichlorobenzene	3.2	ug/kg	U	Bromomethane	16.0	ug/kg	U
2,2-Dichloropropane	3.2	ug/kg	U	Butylbenzene	3.2	ug/kg	U
2-Butanone	16.0	ug/kg	U	**Carbon disulfide**	**4.5**	**ug/kg**	**J**
2-Chlorotoluene	3.2	ug/kg	U	Carbon Tetrachloride	3.2	ug/kg	U
2-Hexanone	32.0	ug/kg	U	Chloroethane	3.2	ug/kg	U
2-Propanone	**24.4**	**ug/kg**	**J**	Chloroform	3.2	ug/kg	U
4-Chlorotoluene	3.2	ug/kg	U	Chloromethane	16.0	ug/kg	U
4-Methyl-2-Pentanone	6.4	ug/kg	UJ	cis-1,2-Dichloroethene	3.2	ug/kg	U

Analyte	Result	Units	Qlfr
Cis-1,3-Dichloropropene	3.4	ug/kg	U
Dibromochloromethane	3.2	ug/kg	U
Dibromomethane	3.2	ug/kg	U
Ethane, 1,1,2,2-tetrachl	3.2	ug/kg	U
Ethene, tetrachloro	3.2	ug/kg	U
Hexachlorobutadiene	3.2	ug/kg	U
Methane, Dichlorodif	16.0	ug/kg	U
Methylene Chloride	**3.2**	**ug/kg**	**J**
MP-Xylene	6.4	ug/kg	U
Naphthalene	**6.3**	**ug/kg**	
Styrene	3.2	ug/kg	U
tert-Butylbenzene	3.2	ug/kg	U
Toluene	3.2	ug/kg	U
Total Xylenes	6.4	ug/kg	U
trans-1,2-Dichloroethene	3.2	ug/kg	U
Trans-1,3-Dichloropropene	3.0	ug/kg	U
Trichloroethene	3.2	ug/kg	U
Trichlorofluoromethane	3.2	ug/kg	U
Vinyl Chloride	3.2	ug/kg	U
1,2-Dichlorobenzene-d4	110	%Rec	
1,2-DICHLOROETHANE-D4	119	%Rec	
Benzene, fluoro	97	%Rec	
p-Bromofluorobenzene	107	%Rec	
Toluene-d8	98	%Rec	

Volatiles - Tentatives

Analyte	Result	Units	Qlfr
Unknown 01	**8.9**	**ug/kg**	**J**
Unknown 02	**8.9**	**ug/kg**	**J**
Unknown 03	**9.1**	**ug/kg**	**J**
Unknown 04	**6.0**	**ug/kg**	**J**
Unknown 05	**39.9**	**ug/kg**	**J**
Unknown Hydrocarbon 01	**18.5**	**ug/kg**	**J**
Unknown Hydrocarbon 02	**6.4**	**ug/kg**	**J**

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr

IBS4335A Blank

Project Code: TEC-637A
Project Name: SPOKANE JUNKYARD
Project Officer: KEVIN ROCHLIN
Account Code: 955T10PTFA10A5U

Collected:
Matrix: Solid
Sample Number: KBS4325A
Type: Blank
Station Description:

GCMS

Volatiles

Analyte	Result	Units	Qlfr	Analyte	Result	Units	Qlfr
1,1,1,2-Tetrachloroethane	1.0	ug/kg	U	Benzene	1.0	ug/kg	U
1,1,1-Trichloroethane	1.0	ug/kg	U	Benzene, (1-methylethyl)	1.0	ug/kg	U
1,1,2-Trichloroethane	1.0	ug/kg	U	Benzene, (1-methylpropyl)	1.0	ug/kg	U
1,1-Dichloroethane	1.0	ug/kg	U	Benzene, 1,2,3-trichloro	5.0	ug/kg	UJ
1,1-Dichloroethene	1.0	ug/kg	U	Benzene, 1,2,4-trimethyl	1.0	ug/kg	U
1,1-Dichloropropene	1.0	ug/kg	U	Benzene, 1,2-dimethyl	1.0	ug/kg	U
1,2,3-Trichloropropane	1.0	ug/kg	U	Benzene, 1,3,5-trimethyl	1.0	ug/kg	U
1,2,4-Trichlorobenzene	5.0	ug/kg	UJ	Benzene, 1-methyl-4-(1-meth	1.0	ug/kg	U
1,2-Dibromo-3-chloropropane	1.0	ug/kg	UJ	Benzene, chloro	1.0	ug/kg	U
1,2-Dibromoethane	1.0	ug/kg	U	Benzene, ethyl	1.0	ug/kg	U
1,2-Dichlorobenzene	1.0	ug/kg	U	Benzene, propyl	1.0	ug/kg	U
1,2-Dichloroethane	1.0	ug/kg	U	Bromobenzene	1.0	ug/kg	U
1,2-Dichloropropane	1.0	ug/kg	U	Bromochloromethane	1.0	ug/kg	U
1,3-Dichlorobenzene	1.0	ug/kg	U	Bromodichloromethane	1.0	ug/kg	U
1,3-Dichloropropane	1.0	ug/kg	U	Bromoform	1.0	ug/kg	U
1,4-Dichlorobenzene	1.0	ug/kg	U	Bromomethane	1.0	ug/kg	U
2,2-Dichloropropane	1.0	ug/kg	U	Butylbenzene	1.0	ug/kg	U
2-Butanone	**2.4**	**ug/kg**	**J**	**Carbon disulfide**	**0.95**	**ug/kg**	**J**
2-Chlorotoluene	1.0	ug/kg	U	Carbon Tetrachloride	1.0	ug/kg	U
2-Hexanone	**2.0**	**ug/kg**	**J**	Chloroethane	1.0	ug/kg	U
2-Propanone	**7.9**	**ug/kg**	**J**	**Chloroform**	**0.36**	**ug/kg**	**J**
4-Chlorotoluene	1.0	ug/kg	U	Chloromethane	1.0	ug/kg	U
4-Methyl-2-Pentanone	1.0	ug/kg	UJ	cis-1,2-Dichloroethene	1.0	ug/kg	U

Analyte	Result	Units	Qlfr
Cis-1,3-Dichloropropene	1.1	ug/kg	U
Dibromochloromethane	1.0	ug/kg	U
Dibromomethane	1.0	ug/kg	U
Ethane, 1,1,2,2-tetrachl	1.0	ug/kg	U
Ethene, tetrachloro	1.0	ug/kg	U
Hexachlorobutadiene	5.0	ug/kg	U
Methane, Dichlorodif	1.0	ug/kg	UJ
Methylene Chloride	**0.79**	**ug/kg**	**J**
MP-Xylene	2.0	ug/kg	U
Naphthalene	10.0	ug/kg	UJ
Styrene	1.0	ug/kg	U
tert-Butylbenzene	1.0	ug/kg	U
Toluene	1.0	ug/kg	U
Total Xylenes	2.0	ug/kg	U
trans-1,2-Dichloroethene	1.0	ug/kg	U
Trans-1,3-Dichloropropene	0.94	ug/kg	U
Trichloroethene	1.0	ug/kg	U
Trichlorofluoromethane	1.0	ug/kg	U
Vinyl Chloride	1.0	ug/kg	U
1,2-Dichlorobenzene-d4	100	%Rec	
1,2-Dichloroethane-d4	112	%Rec	
Benzene, fluoro	101	%Rec	
p-Bromofluorobenzene	97	%Rec	
Toluene-d8	103	%Rec	

Volatiles - Tentatives

Unknown 01	**1.6**	**ug/kg**	**J**
Unknown 02	**0.72**	**ug/kg**	**J**
Unknown Hydrocarbon 01	**0.56**	**ug/kg**	**J**
Unknown Hydrocarbon 02	**0.78**	**ug/kg**	**J**